

**ORTHOCHAETES SETIGER (BECK) (COLEOPTERA:
CURCULIONIDAE) LEAF-MINING ALLIUM URSINUM
IN SOUTHERN SCOTLAND**

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Ramsons or *Allium ursinum* L. is a plant that is avoided by most animals, both large and small (Tutin, 1957). Thus, the discovery of an occupied leaf-mine in *A. ursinum*, by the Water of Leith (OS. Grid ref NT1867), Midlothian (VC 83) on 26 June 1996 is worth recording. Initially, the mine was a small blotch occupying only the extreme apex of the leaf. Subsequently, the beetle larva mined down the midrib of the leaf for about 3 cm before mining out into the lamina of the leaf where a complex series of short forays occurred (see Fig. 1). The larva left the leaf-mine on 1 July 1996 and burrowed down into the sandy substrate for pupation. In due course an adult of *Orthochaetes setiger* (Beck, 1817) emerged on 8 July 1996. The specimen was kindly identified by Mr Magnus Sinclair.

O. setiger is listed by Hyman & Parsons (1992) as nationally scarce (Nb), but some regard it as a common weevil. There are several previous records from southern Scotland (Crowson, 1971); in fact its first Scottish record was from Dalmeny Park, Midlothian in 1841 (Greville, 1841). The life-history of *O. setiger* in Britain is unclear. Joy (1932) states that the genus *Orthochaetes* is associated with the roots of plants, an association echoed by Cooter & Cribb (1975) who specify "at roots of *Rumex acetosella*" for *O. setiger* but who in addition note an association with *Senecio* spp. (part of plant not specified). Surprisingly Bullock (1992) makes no mention of the species.

Consultation of the European literature tells quite a different story. *O. setiger* is recorded by Hering (1957) as forming leaf-mines in some 19 genera of plants. Sixteen

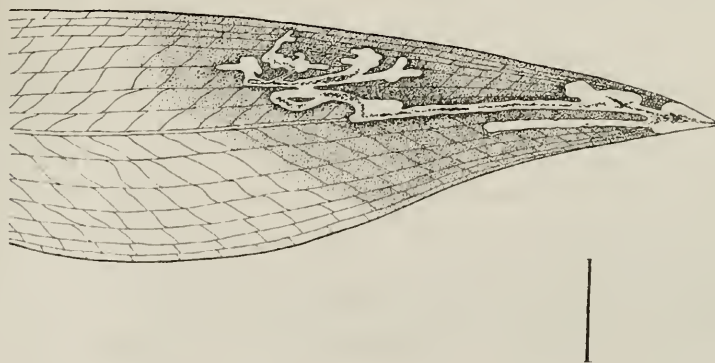


Fig. 1 Drawing of the leaf-mine of *Orthochaetes setiger* (Beck) in *Allium ursinum* L. Scale-bar represents 1 cm.

of the genera belong to the family Asteraceae (= Compositae), with single genera only being recorded from Lamiaceae, Boraginaceae and Plantaginaceae. However, Hering (1957) makes no mention of *Allium* or any other monocotyledon as a food plant.

The present rearing of *O. setiger* from ramsons would at first seem to be a case of very deviant host-selection by the weevil were it not for another observed association of this species with *A. ursinum*. A collection of seedheads of *A. ursinum* from Temple (O.S. Grid ref NT3158), Midlothian (VC 83) on 30 June 1991 produced an imago of *O. setiger* some while later. No leaf material was included in this collection. Larval workings could not be found as the material was badly decayed by the time the beetle was discovered. The entering of the seedheads for pupation by a wandering larva, prior to the collection of the seedheads, seems unlikely in view of the site of pupation recorded above. Furthermore, it is also unlikely that the adult beetle was concealed amongst the seedheads as these were carefully inspected soon after collection and looked at daily from then on. Thus in view of the strong association of the illustrated leaf-mine with the midrib it seems probable that the larva was mining the flower stem of the *Allium* when the heads were collected.

The present associations of *O. setiger* with a monocotyledonous host in Britain, whereas in mainland Europe it has a strong affinity for the dicotyledonous Asteraceae, is curious. However, there is some indication that *A. ursinum* may have a similar defence chemistry to many species of Asteraceae. Circumstantial evidence for this is as follows.

(A) The hoverfly genus *Cheilosia* has some 26 species in Europe—22 of these mine the stems or roots of dicotyledons, mostly Asteraceae (14 spp.), while three have transferred to fungi and one has successfully transferred to *A. ursinum* (Rotheray, 1993).

(B) The tortricid moth *Cnephasia interjectana* (Haw., 1811) has twice been reared from the flowerheads of *A. ursinum* (Bland, unpublished). It is a polyphagous species recorded feeding on some 121 genera of dicotyledons but only on six genera of monocotyledons (Hering, 1957).

(C) The agromyzid fly *Chromatomyia horticola* (Goureau, 1851) is polyphagous on many species of Asteraceae. However, its hosts include some 30 genera of dicotyledonous plants but only one species of monocotyledon, namely a species of *Allium* (Spencer, 1990).

Only future phytochemical studies will establish whether such a chemical similarity exists or whether the above observations are just coincidence.

ACKNOWLEDGEMENT

We are very grateful to Mr Magnus Sinclair for identifying the weevil for us.

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BOOK REVIEWS

A review of the scarce and threatened ethmiine, stathmopodine and gelechiid moths of Great Britain (UK Nature Conservation No. 16) by M. S. Parsons. Joint Nature Conservation Committee, Peterborough, 130 pages, softback, £13.40.—Lists of scarce species can be dangerous. They are something which politicians can seize upon and abuse to “protect” from collectors under the guise of promoting a pro-conservation image. Happily there are no likely candidates for this treatment among the smaller moths considered in this book.

When habitats are assessed, the occurrence of scarcer species can be a sensitive indicator of the intrinsic quality of a site. Fortunately the importance of invertebrates, and in particular insects, is being more widely recognized in the conservation world. In order for this kind of assessment to have value there needs to be an authoritative listing which takes account of all available data.

Parsons (1984) was a first attempt to provide a measure of the status of many less common microlepidoptera; it was achieved by obtaining the opinion of specialists in various groups. This report, following that on the pyrales (Parsons, 1993), gives much more detailed hard data in support of the appropriate status for the 83 species considered. The families of moths included are comparatively poorly known, with scarcely any species having received detailed treatment in the British literature since Meyrick (1928), with the exception of those Gelechiid species covered by short papers in the *British Journal of Entomology and Natural History*.

The introductory sections describe the scope of the information contained; the format of the datasheets is set out under sensible headings: species name, species status, identification, distribution, habitat and ecology, status, threats, management and conservation, and published sources. The method and sources of information are carefully set out and it is stated that Parsons (1984) was taken as the baseline for the list of species with additions and deletions as suggested by the data.

The various categories of status: endangered (RDB1) etc are then spelt out with the addition of two categories: RDBI—indeterminate, and RDBK—insufficiently known, which allows avoidance of a decision being made on inadequate information. The species are then listed by status category, as well as in taxonomic sequence. It is of interest to note that seven species within these families are described as extinct. To make such a declaration about small and obscure moths requires courage, for there is always the chance that such a species may be lurking undiscovered somewhere in the British Isles. However, this judgement is to be welcomed; we cannot wait a century in times of rapid change and the rate of extinction of species needs to be brought to people's attention. Of similar interest is the listing of nine species as endangered, which might make them candidates for legal protection if they were not so small and apparently insignificant.

The main part of the book consists of the datasheets for each of the species considered. Each one is packed with information which appears to have been very